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EXAMINER	
MILLER, JR, JOSEPH ALBERT	

ART UNIT	PAPER NUMBER
1792	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/594,762	JANG ET AL.	
	Examiner	Art Unit	
	JOSEPH MILLER JR	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/29/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 12 recite the limitation "the raw materials". There is insufficient antecedent basis for this limitation in the claim.

In claim 1 the raw materials may be referring to the metal-containing material, and claim will be interpreted as such for examination, however, the claim does not specifically require any order (and also may include additional steps) and as such raw materials is not sufficiently defined. In claim 12 the materials may be either one or the other or a tertiary raw material.

(Claims 2-11 and 13-26 are indefinite for their dependence on 1 and 12.)

Claims 22-25 include generic formulas as well as specific species. Claims are not adequately clear, specifically in regards to whether the genus or species is being claimed.

Claim Objections

Claims 17 and 18 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim can only refer back in the alternative only. See MPEP § 608.01(n). Accordingly, claims 17 and 18 have not been further treated on the merits.

Claims 22-25 are objected to because of the following informalities: claims include reference to compounds listed in Tables and a Figure.

While the MPEP allows for the incorporation by reference of material in a table or figure, the examiner takes the position that instant circumstances are not "exceptional" as to allow for such incorporation by reference.

Please see MPEP 2173.05(s) Reference to Figures or Tables: Where possible, claims are to be complete in themselves. Incorporation by reference to a specific figure or table "is permitted only in exceptional circumstances where there is no practical way to define the invention in words and where it is more concise to incorporate by reference than duplicating a drawing or table into the claim. Incorporation by reference is a necessity doctrine, not for applicant's convenience." Ex parte Fressola, 27 USPQ2d 1608, 1609 (Bd. Pat. App. & Inter. 1993) (citations omitted).

In this case, applicants can readily list or draw the claimed compounds. The tables, in fact, make claims 22-24 indefinite as noted above, and serve no purpose to clarify the claimed matter (versus inclusion in the claim text). There is no material included in claim 25 which requires a figure to more clearly define the claimed matter.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 12, 19, 20, 22 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by **Yu (CVD, 2001)**.

Yu teaches a process where bis(hydroxy-5-quinolyl)methane and aluminum acetylacetonate are applied via CVD to form a chelated polymer EL film of the components (p66, 1st and last paragraph). Yu teaches that the process involves the formation of the layer by converting the precursors to vapor at 280 degrees C and then forming them on a substrate held at room temperature (Experimental, p68).

Addressing independent claims 1 and 12:

Regarding claim 1, steps are not listed with any specificity regarding the order or that they are even required to be separate steps, therefore examiner takes the position that the process of Yu reads on instant claim as written. Furthermore, the ALD or MLD required in the preamble carries no limitations as to what constitutes such processes, besides the formation of atomic and/or molecular layers. Examiner holds that in the CVD film there would inherently be atomic and/or molecular layers. Examiner also takes the position that for adherence of the film to the substrate, there would be some level of reaction with the substrate as required per claim.

Regarding claim 12, all limitations are met per above.

Regarding claim 19, Yu teaches that the temperature is maintained at room temperature.

The "reaction temperature" is not sufficiently defined in claims to limit it to the temperature at which the deposition occurs. Claims 1 and 12, for example, require the temperature of the chamber to be at a specific reaction temperature, but there is no link such as to require the actual deposition to occur at the claimed 'reaction temperature'. Since the claims are written as comprising, either a pre- or post-step may occur at a certain temperature and meet the limitation as written.

Yu teaches that following deposition the film was heat-treated at 160-170 degrees (experimental). The heat treatment satisfies the instant claims requirement of a reaction and a reaction temperature.

Regarding claim 20, Yu teaches the use of an aluminum precursor (p66, last paragraph).

Regarding claim 22, Yu teaches Al(acac)3, indicated in Table 1.

Regarding claim 26, Yu depicts two evaporators in figure 4. Examiner takes the position that, even though vaporization units are built within a greater chamber, the "reaction chamber" as defined may be interpreted as the region wherein the film deposition reaction occurs, and not the region wherein the evaporations occur.

Claims 1, 12, 19, 20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by **Yu (Synthetic Metals, 2001)**. (Yu2)

Yu teaches a process where bis(hydroxy-5-quinolyl)methane and aluminum acetylacetonate are applied via CVD to form a chelated polymer EL film of the components (Introduction, last paragraph). Yu teaches (2.3, experimental) that the process involves the formation of the layer by converting the precursors to vapor at 280 degrees C and then forming them on a substrate held at room temperature.

Addressing independent claims 1 and 12:

Regarding claim 1, steps are not listed with any specificity regarding the order or that they are even required to be separate steps, therefore examiner takes the position that the process of Yu reads on instant claim as written. Furthermore, the ALD or MLD required in the preamble carries no limitations as to what constitutes such processes, besides the formation of atomic and/or molecular layers. Examiner holds that in the CVD film there would inherently be atomic and/or molecular layers and some level of reaction would occur with the substrate in order to adhere a film.

Regarding claim 12, all limitations are met per above.

Regarding claim 19, Yu teaches that the temperature is maintained at room temperature.

Yu teaches that following deposition the film was heat-treated at 160 degrees (2.3). The heat treatment satisfies the instant claims requirement of a reaction and a reaction temperature. (Please refer to comments above re: 'reaction temperature').

Regarding claim 20, Yu teaches the use of an aluminum precursor (2.1, 2.3).

Regarding claim 22, Yu teaches Al(acac)3, indicated in Table 1.

Claims 1, 4, 12, 20, 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Sasa (4,455,364).

Sasa teaches a process of forming a layer including a metal and a chelating agent (col 11, line 23 – col 12, line 58). The process taught by Sasa includes a chelating agent which may include 8-hydroxyquinoline (col 5, lines 4-39).

The apparatus includes regions wherein the metal and chelating agent sources are heated to evaporating temperatures (col 12, lines 12-16); instant claim requires a specific temperature but not the requirement of teaching a numeric value – the evaporation temperature of a material is a specific temperature.

Regarding claims 1 and 12, Sasa teaches that the metal and chelating agents may be fed together to form a mixed state of material (col 12, lines 21-26). While examiner holds that, per reasons explained in the rejection over Yu above, this satisfactorily meets the ALD/MLD requirements of claim 1, Sasa also teaches that an alternative operable manner of depositing the film would be deposit the two materials in separate layers (col 12, lines 26-32).

Regarding the preamble requirement for forming a light-emitting layer, examiner takes the position that since the prior art and instant application teach the same process steps of providing a metal and 8-hydroxyquinoline, the resultant film would necessarily capable of use as a light emitting layer.

Regarding claim 1 requirement of reacting with the substrate, examiner holds that there must be some level of physical or chemical reaction with the substrate in order to adhere a film to a substrate, no limitations are placed on the reaction.

Regarding claim 4, Sasa teaches that the metal and metal chelating agents are "deposited in the form of layer" – examiner takes the position that in the context of the paragraph the proper interpretation is "layers" and implies the repeated deposition of the materials. Sasa teaches layers from 20 to 3,000 nm thick – if one were to form only two independent layers using one material and then the other material, it would not form a composite material as required in the context of the invention. While Sasa is not especially limiting on the resultant film, examiner takes the position that a composite metal-metal chelating agent film is desired versus two completely separate layers (col 12, lines 41-58).

Regarding claim 20, Sasa teaches the use of aluminum or zinc as a metal material (col 6, lines 50-68).

Regarding claim 25, Sasa teaches 8-hydroxyquinoline (instant Fig. 4a).

Regarding claim 26, while Sasa teaches that the materials are evaporated by separate heaters, there is limited teaching on the boundaries of the apparatus used, including the vaporization before being fed into the reaction chamber. Examiner takes the position, however, that even if the vaporization chambers are built within a greater chamber, the "reaction chamber" as defined may be interpreted as the region wherein the film deposition reaction occurs, and not the region wherein the evaporations occur.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasa (4,455,364) as applied to claim 1 in view of Yudovsky (6,821,563).

Sasa teaches the feeding of a metal containing material and 8-hydroxyquinoline into a process chamber as indicated above, but is silent on other deposition steps such as the use of purge steps.

Yudovsky teaches a cyclical layer deposition apparatus and method (col 1, lines 30-41; col 2, lines 49-67). Yudovsky teaches that after a first precursor is flowed into the chamber, a purge gas is used to removed reactive material (col 4, lines 44-65).

It would have been obvious to someone of ordinary skill in the art at the time of the invention to apply the use of purge gases as taught by Yudovsky to remove excess precursors after a desired amount of precursors has been adhered in a layer in the method of Sasa. Sasa teaches that the method may be carried out either by simultaneous deposition or by forming individual layers of each metal and chelating agent - the use of a purge gas would remove any material that did not form a layer; as suggested by Yudovsky, the purge gas and gas inlet location would prevent cross contamination of the reactants.

While, as noted above, Sasa is not particularly limiting on the structure of the film (col 12, lines 41-54), the teachings are such that the "metal and metal chelating agent would be mutually reacted to produce a new compound" - thereby implying that, when depositing the films in separate layers, the layers would be some optimized thickness as to effect an interaction/reaction between the layers of metal and chelating agent. Therefore examiner's position is that, even though Sasa is not particularly concerned

with the structure of the resulting film, he is concerned that it effects the desired result. One of ordinary skill would necessarily wish to control the amounts of reactants and removing any residual reactants would further eliminate any (gas phase) reactions that do not take place by the interaction of the layers.

Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasa (4,455,364) as applied to claim 1.

Sasa teaches the feeding of a metal containing material and 8-hydroxyquinoline into a process chamber as indicated above, but is silent on other deposition steps.

Regarding claim 5, Sasa is silent on the time period that the precursors are flowed into the process chamber, however teaching relative thickness ratios of the metal to chelating agent. Examiner takes the position that, as the flow period is one process variables responsible for film thickness, Sasa therefore teaches that the period of flow is a results effective variable and subject to routine process optimization.

Please see MPEP 2144.05, II. OPTIMIZATION OF RANGES.

Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasa (4,455,364) in view of Yudovsky (6,821,563) as applied to claims 2 and 3 above and in further view of Miyamoto (2002/0005167).

The teachings of Sasa in view of Yudovsky are described above, teaching a process of exposing a metal containing material and an 8-hydroxyquinoline to a substrate with intermediate purge steps.

Regarding claims 6 and 9, Yudovsky teaches elements of the chamber, including pumping ports but not the use of a pump in the process chamber.

Miyamoto teaches a method of using a deposition chamber, including the use of a vacuum pump disposed inside the vacuum chamber [0039].

It would have been obvious to someone of ordinary skill in the art at the time of the invention to apply the use of a vacuum pump in the deposition in the process of Sasa in view of Yudovsky as the vacuum pump inside the chamber would allow the pressure around the substrate to be more speedily adjusted [0040].

Regarding claims 7 and 10, Yudovsky teaches that the purge gas is an inert gas such as N2, Ar or He (col 4, lines 44-65).

Regarding claim 8 and 11, Yudovsky teaches that the purge gas is configured to remove reactive material and byproducts (col 4, lines 44-65), thereby suggesting that the purge gas flows are results effective variables and subject to routine optimization. It would have been obvious to someone of ordinary skill in the art at the time of the invention to apply a purge gas flow of an appropriate flow rate and period in order to effectively purge reactive gases and materials, per Yudovsky's teachings.

Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Yu (CVD, 2001)** as applied to claim 12 above and in further view of Forrest (5,554,220).

The teachings of Yu2 are described above regarding the co deposition of a metal containing material and a 8-hydroxyquinoline derivative.

Yu teaches that the byproducts of the reaction can be removed (pg 67, first partial paragraph) but only specifically teaches a vacuum system (experimental).

Forrest teaches a method using an organic vapor phase deposition including the purging of excess reactants and reaction products using a carrier gas (abstract).

It would have been obvious to someone of ordinary skill in the art at the time of the invention to apply the use of the purge gas as taught by Forrest with the organic vapor deposition of Yu as one could apply the use of a purge gas as taught by Forrest with a reasonable expectation of success in removing the reaction products or excess reactants based on Forrest's teaching of the same (and Yu's taught desire that said products exists and are desirably removed). Though Yu implies that the components are evacuated, the method of Forrest would be an operable alternative.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yu (CVD, 2001)** as applied to claim 12 and in further view of Yu2.

The teachings of Yu are described above regarding the co deposition of a metal containing material and a 8-hydroxyquinoline derivative. Yu teaches forming a film with a growth rate of 1 – 10nm/min, based on the process conditions (experimental) and that required film thickness is 50 to 500 nm.

Yu2 is described in more detail above and will not be repeated here. Yu2 uses the same process as in Yu (per section 2.3, first sentence). Yu2 teaches that a 50nm

film is effective for a device as described by device 1 and a 100nm is desirable for device 2 (section 2.4).

Regarding claim 14, based on the teachings of Yu and Yu2 that an effective film is at least 50nm, it would have been obvious to form a 50nm layer as taught and then repeat the process in order to form the EL film as required by Yu2's device. One of ordinary skill would realize that repeating known deposition steps of forming a 50nm film would be one obvious manner to form a composite 100 nm film.

Regarding claim 15, since Yu teaches that a deposition rate is from 1 to 10 nm/min, it would have been obvious to someone of ordinary skill in the art at the time of the invention to apply the deposition of Yu for a period of 5 to 50 mins (deposition rate dependent) in order to effectively form the film of Yu2 required for device 1.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Yu (CVD, 2001)** in view of Forrest (5,554,220) as applied to claim 12 above and in further view of Miyamoto (2002/0005167).

The teachings of Yu in view of Forrest are described above; Yu depicts a vacuum chamber either in or attached to the chamber (Fig. 4, p68) but does not explicitly state that the vacuum pump is in the chamber

Miyamoto teaches a method of using a deposition chamber, including the use of a vacuum pump disposed inside the vacuum chamber [0039].

It would have been obvious to someone of ordinary skill in the art at the time of the invention to apply the use of a vacuum pump in the deposition in the process of Yu

in view of Forrest as the vacuum pump inside the chamber would allow the pressure around the substrate to be more speedily adjusted [0040].

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Yu (CVD, 2001)** as applied to claim 1 above and in further view of Nelson (2003/0185979), and, in the alternative also in view of Hunt (2002/0058143).

The teachings of Yu are described above. Yu teaches the use of aluminum acetylacetonate but does not teach the precursors listed in claim 21.

Nelson teaches a process for the deposition of a film (abstract). Nelson teaches the use of precursors that may be evaporated [0032] and teaches that triethylaluminum or aluminum acetylacetonate are each effective precursors for a vapor deposition by evaporation [0035].

It would have been obvious to someone of ordinary skill in the art at the time of the invention to apply the use of triethylaluminum as a precursor in the method of Yu as Nelson teaches that either of the compounds may be a useful precursor for an evaporative film-forming process. One could use either compounds with a reasonable expectation of success in forming a film based on the ability of either to form a vapor.

Hunt provides further motivation in teaching that either of these compounds is cost effective [0028, 0030].

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasa (4,455,364) as applied to claim 1 above, in view of Hunt (2002/0058143) as evidenced by Tanabe (2001/0008121).

The teachings of Sasa are described above, teaching the use of a metal and chelating agent which are co-evaporated to form a film. Sasa teaches that the metal is preferably aluminum, but that it might also be zinc (col 6, lines 50-68). Sasa is silent on any particular zinc compounds that could be applied.

Hunt teaches that Zn(acac)2 is a suitable and low cost precursor which may be used to deposit a metal or metalloid film [0028, 0062]. One could apply the zinc precursor of Hunt with a reasonable expectation of success in forming a zinc - zinc chelate film in the invention of Sasa based on Hunt's teaching that zn(acac)3 is an effective precursor for forming a metal or metalloid layer. Based on Sasa's silence on precursor, one could apply that taught by Hunt with an expectation of forming an operable metal-containing layer.

Further, MPEP 2144.07 addresses "Art Recognized Suitability for an Intended Purpose", stating: The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945). See MPEP for more.

The list of compounds required by applicants is not particularly limited and indicates no showing of criticality.

Regarding the applicability of such a film to an EL layer (as per claims preamble), Tanabe teaches that Alq3 is desirable for such a layer but other related compounds including those with zinc (Znq) may be employed [0067-9; 0063-64].

Allowable Subject Matter

Claim 23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Regarding claim 23, Sasa (4,455,364) provides the closest prior art. Examiner also found no analogous teachings to those of Yu yet applying any other metals, such as Ga, for example.

Examiner believes the teachings of Sasa are the closest art, but the teachings do not lend themselves to any arguments such that the use of gallium would be obvious.

For example, while Sasa teaches the use of a metal and chelating agent which are co-evaporated to form a film, Sasa teaches that the metal is preferably aluminum, but that it might also be an array of other metals (col 6, lines 50-68), but does not specifically teach gallium.

Frisch (4,705,739) teaches an analogous art method of forming metal layers (Frisch teaches that the method of Sasa is known in the art of the invention for forming a metallic image (col 1, lines 15-48)), and teaches that the vapor deposited metals include aluminum, zinc and gallium, for example (col 4, lines 30-50).

Sasa is not particularly limiting on the metal applied with the chelating agent, but requires that it is capable of being etched by a known method.

Ikeda (4,008,084) is another example of analogous art that teaches metallic image formation where an aluminum-containing metallic image includes another metal which may be gallium (abstract, col 2, lines 44-48). Ikeda, however, includes the alternative metal, such as gallium, but teaches that the gallium makes etching more difficult and does not want a complete layer disposed (col 2, line 64 – col 3, line 9).

It is further noted that while some 8-hydroxyquinoline derivatives have a selectivity towards metals including aluminum, zinc and gallium, for example (Chimica Acta), it is examiner's position that it would be improper hindsight to suggest that such derivatives would be used in a CVD process as described in the instant application based on selectivity. While the information shows that one *may* expect Al and Ga compounds to behave similarly, there are no suggestions/reasons to alter the art of Yu in a manner to apply a Ga precursor with a reasonable expectation of success in using a CVD method. While the elements exist, the processing conditions require more than a selectivity of one compound to another in order to effect a viable film.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH MILLER JR whose telephone number is (571) 270-5825. The examiner can normally be reached Mon - Thurs, 7am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks, can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/JOSEPH MILLER JR/
Examiner, Art Unit 1792

/Timothy H Meeks/
Supervisory Patent Examiner, Art Unit 1792